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PREDICTION OF BLEEDING IN PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION: A RISK SCORE USING PRE-PROCEDURAL CLINICAL VARIABLES

i2 Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Session Title: Vascular Access, Closure Devices, Complications
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Background: Antithrombotic therapies have markedly reduced ischemic complications in patients undergoing percutaneous coronary intervention (PCI). However, their use increases risk of peri-procedural bleeding, which is associated with higher morbidity and mortality. We investigated the use of pre-procedural risk factors to identify patients at heightened risk of bleeding following PCI.

Methods: Consecutive patients who underwent PCI via femoral approach at Mayo Clinic from 2000-2009 were included. Major bleeding events included intracranial, retroperitoneal, or gastrointestinal bleeding; pseudoaneurysm; or any bleeding which required transfusion, surgery or prolonged hospital stay. A risk score was created based on coefficients proportional to the parameter estimates from the logistic regression model. It was internally validated via bootstrapping to correct for optimism of the model.

Results: Overall, 949 (7.7%) of 12,256 patients had a major bleed. The predicted risk of major bleeding ranged from 1% to >50%. (see Figure 1) Age, gender, recent myocardial infarction, shock, creatinine, body mass index, sheath size and use of glycoprotein IIb/IIIa inhibitors were independent predictors of bleeding. The optimism corrected c-index of the model was 0.74; the Hosmer-Lemeshow goodness-of-fit test was non-significant (p=0.09).

Conclusion: Pre-procedural patient characteristics may be used to identify patients at high risk of bleeding following PCI and assist in efforts to reduce risk.